**Description:** A major reason for the lack of satisfactory management of prostate cancer is limited understanding of prostate tumor formation. Recent studies have shown that the Hedgehog (Hh) signaling pathway plays a key role in the development of prostate cancer. Data imply that increased pathway activity may distinguish metastatic from localized prostate cancer; manipulating the pathway can modify the degree of invasiveness and metastasis. Studying the Hh signaling pathway during prostate tumor formation will provide new opportunities to develop therapeutic targets for the disease. Agents inhibiting this pathway could become useful in anti-tumor therapies for prostate cancer.

**Results:** The results of this study significantly contributed to understanding the development of human prostate tumors, providing opportunities for developing new interventions. The investigators discovered that the stability of the Gli2 protein plays an important role in regulating cellular response to the Hedgehog (Hh) pathway.

Gli2 transcription factor was found to have significant effects on the malignant transformation of prostate cancer cells. Gli2 may become a target for future therapies, especially for patients with high-grade and/or metastatic prostate cancer.

**Met Objectives:** Project completed

**Timeline for Application of Results:** Unknown

**New Partnerships or Collaborations:**
- Collaboration with several groups at UW School of Medicine and Public Health and nationally
- Collaboration with Anne M. Traynor, MD (UWCCC member: Experimental Therapeutics), to study the role of Gli2 as a variable in early-stage disease

**Matched Dollars (cash or in-kind):** $0

**Dissemination:**
- Published articles: Cancer Research; Journal of Biological Chemistry
- Work with Wisconsin Alumni Research Foundation continues on two patents for Gli2 inhibition to treat prostate and other cancers

**Additional Funding:** None